



### *Mr. James R. Davidson*

*Extensive experience in applied physics, optics, and optical sensors.*

**Phone:** 208.526.0422

**E-mail:** james.davidson@inl.gov

**Education:** Mr. James R. Davidson received his Bachelor's Degree in electronics technology at Idaho State University.

**Work experience:** After receiving his degree, Mr. Davidson worked at Los Alamos National Laboratory for four years. He then worked at Argonne National Laboratory for a year prior to joining the INL in 1983. He works as a consulting technical specialist for the Laboratory, developing data acquisition and control systems, sensors and detection systems using laser-induced fluorescence and laser acoustics.

**Professional endeavors:** Mr. Davidson has authored more than 25 professional papers in the areas of sensors, spectrometry and optical sensing technologies. He is well versed in video closed circuit theory, operation and design. He has integrated the analog world of nonstandard video systems to the digital domain for quantitative analysis of the data acquired. Mr. Davidson also has extensive experience with image intensifiers for enhancement of light input to the video systems. His computer experience includes maintenance, programming, and operation of DEC PDP 11-34 and 11-05 computer systems, CAMAC instrumentation, Modcomp computer systems, IBM personal computer systems, and Sun workstations, including computer systems were a variety of specialized data acquisition, control, and image processing systems. His photography experiences include the use of high-speed film camera systems, film processing and scintillator imaging photography including various MCT, PtSi, QWIP, Microbolometer, CCD and CMOS-type sensors. He has a strong background in laser systems, spectroscopy, imaging (other than video systems), optical systems, optical instrumentation, and the various pieces of test equipment needed to calibrate and maintain these systems.

#### **Patents:**

U.S. Patent No. 5,939,711 – Electro-Optic Voltage Sensor Head

U.S. Patent No. 6,124,706 – Electro-Optic Voltage Sensor with Multiple Beam Splitting

U.S. Patent No. 6,388,434 – Electro-Optic High Voltage Sensor Head

U.S. Patent No. 6,362,615 – Electro-Optic Voltage Sensor

U.S. Patent No. 6,307,666 – Voltage Sensing Systems and Methods for Passive Compensation of Temperature Related Intrinsic Phase Shift

#### **Licensing information**

For information on licensing INL technologies such as those developed by Mr. Davidson, contact the Lead Account Executive for Industrial Processing and Manufacturing:

#### **Jason Stolworthy**

Phone: 208.526.5976

E-mail: jason.stolworthy@inl.gov